



QS Series USB Module Programmer



SDM-USB-QS-S USB MODULE PROGRAMMER GUIDE

DESCRIPTION

The Linx QS Series USB module can be programmed to display a custom name, description, and manufacturer ID as well as a unique serial number so that it can be distinguished from other modules on the same bus. The Linx QS Series programmer is an executable that can program this information to the module's on board EEPROM through the USB bus. This simplifies the process of custom programming during final product production testing.

The programmer is an executable that can be run on a Windows based PC (98, 2000, NT, and XP). The QS Series Direct Drivers will need to be installed prior to using this software. These drivers may be downloaded from the Linx web site.

The programmer's user interface is shown in the figure below.

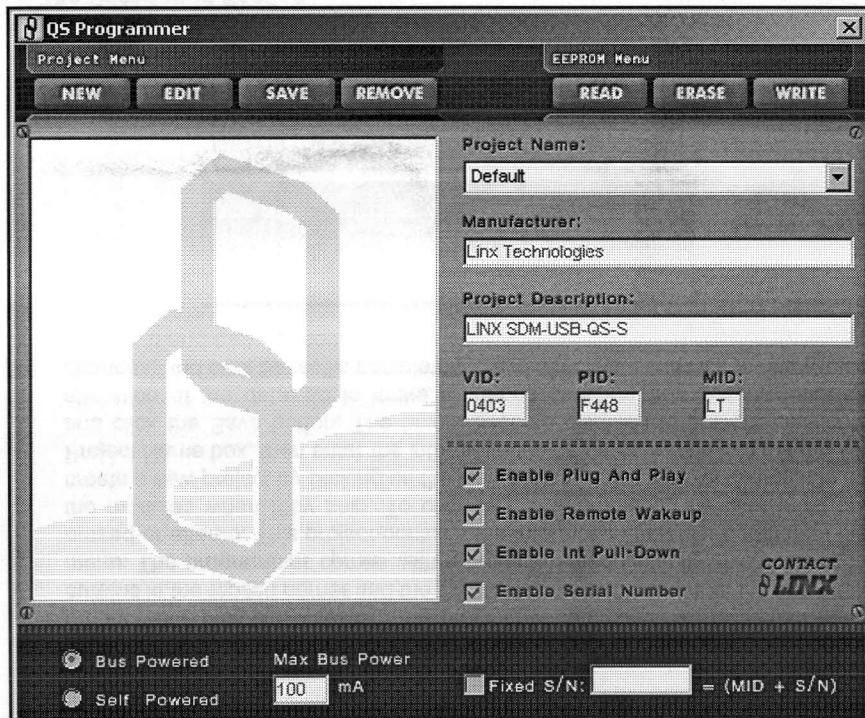


Figure 1: The QS Series Programmer

THE PROGRAMMER

The programmer interface has been divided into several sections based on the type of information handled.

The Project Section

The programmer can save and recall the names and settings for a particular product in a project. Access to the projects is controlled by the Project Menu buttons in the top left corner and the Project Name drop box under the EEPROM menu. The programmer comes with a project named Default, which cannot be erased or altered. This project contains the information that is programmed into the modules when they ship. To change this information, the user must first create a new project by clicking on the New button. Enter a project name into the Project Name box, then enter the information to be programmed into the module and click the Save button. The boxes become disabled to prevent accidental alteration of the data, so to make a change click the Edit button, make the changes, and click Save. To completely erase a project, select it from the Project Name list and click Remove.

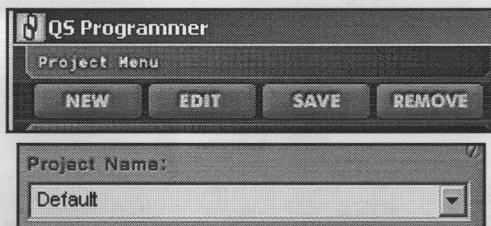


Figure 2: The QS Programmer Description Section

The Description Section

This section is located beneath the Project Name box. The Manufacturer, Description, and Manufacturer ID fields can all be modified to suit the product. The Vendor ID (VID) and Product ID (PID) fields should not be changed unless the product has gone through the USB certification process and received its own identification numbers. The Manufacturer ID (MID) is a two character field that can be any two alphanumeric characters. These characters are used as the first two characters of the serial number. The Manufacturer and Product Description fields must be at least two characters long, but combined may not exceed 38 characters.

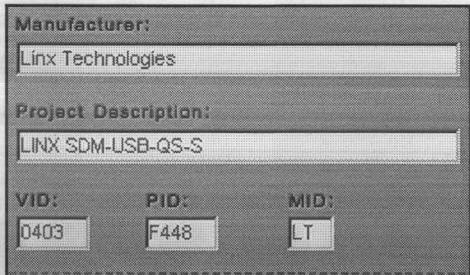


Figure 3: The QS Programmer Description Section

THE PROGRAMMER (CONT)

The Power Section

Below the Programming Window is the Power Section. The option buttons on the left are used to tell the computer if the module will be supplied with power from the USB bus or from a power supply built into the device. If the device will be powered from the USB bus, then the Max Bus Power Box will contain the amount of current in millamps that the device will pull from the bus. The USB specification has strict requirements for devices that will get their power from the bus so please read the Power Supply Considerations section of the SDM-USB-QS-S manual. If the device will be self powered, then the Max Bus Power field will default to 0mA.



Figure 4: The QS Programmer Power Section

The Features Section

Below the Power Section is the Features Section. This section allows the user to customize some of the features of the module.

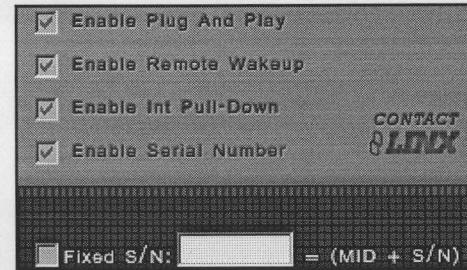


Figure 5: The QS Programmer Features Section

Enable Plug And Play: If the module is to be used as a general purpose USB to RS232 serial converter, the PC should be able to recognize any secondary peripheral attached to the module that conforms to the Windows Plug and Play standard, such as modems or serial mice. On recognition of such a device Windows will attempt to identify and load the drivers for the secondary peripheral. For other application areas PNP is not usually required so this option should be turned off.

Enable Remote Wakeup: The QS modules are capable of waking a PC from the USB suspend (sleep) state. To use the remote wake-up capability, enable this option by checking the box.

Internal Pull-Down Enable: The I/O pins on the QS module are normally pulled high, but the module has the option to pull the pins low when the host puts the bus into suspend mode. Select this option to minimize the USB suspend current otherwise leave this option unselected.

Enable Serial Number: This box should be checked if a serial number will be programmed into the module, otherwise it should not be checked.

THE PROGRAMMER (CONT)

Fixed Serial Number: If the checkbox is checked then the programmer will use the Manufacturer ID and whatever is in the text box to the right as the serial number. If unchecked, then the programmer will create a unique serial number based on the Manufacturer ID and the current date and time.

The Programming Section

The top right side of the programmer is the EEPROM Menu. If the Read EEPROM button is pressed, then the Programmer Window will show the values that are currently written into the EEPROM. If the Erase EEPROM button is pressed then the Programmer Window will display a message saying that the erase was successful or failed. If successful, then the EEPROM on the module will be blanked and all of the information erased. If the Write EEPROM button is pressed, then the programmer will assemble the information in the form and write it to the module. The Programmer Window will display a message saying that the write was successful or failed.

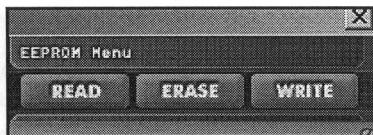


Figure 6: The QS Programmer Programming Section

The Programmer Window

The Programmer Window will provide feedback based on the user interaction. It will show the values saved in the current project as well as the results of programming the module.

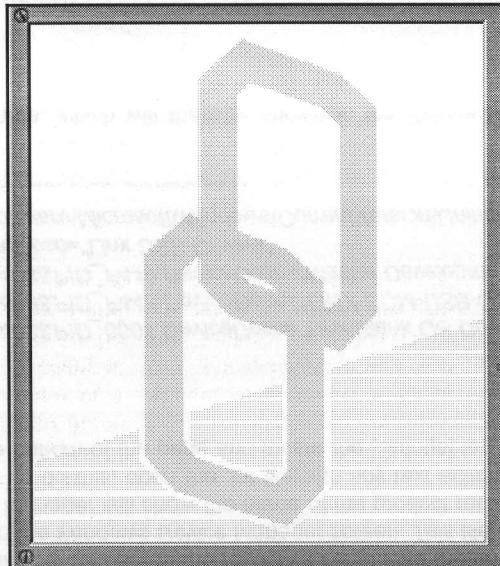


Figure 7: The QS Programmer Window

PROGRAMMER INFORMATION

Information about the programmer software can be found by clicking on the Linx logo on the bottom right of the form.



Figure 8: The Linx Logo

This will open the About screen as shown in the figure below.



Figure 6: The QS Programmer Programming Section

This screen displays information about the software and the contact information for Linx Technologies. Click on the email link to send an email to Linx, or click on one of the web links to open the web sites in the default web browser. The Linx Technologies site will have information related to all Linx products while the Instant USB site will have information related to the QS Series modules only.

Clicking on the System Info button will open the Windows System folder and OK will close the window and return to the programmer.

CUSTOMIZING THE FTD2XX.INF FILE

Windows will use the data in the ftd2xx.inf file to load the drivers and to display the device in the Windows Device Manager screen. This file can be changed so that Device Manager will show the name of the product rather than LINX SDM-USB-QS-S. To do this, open the .inf file with any text editor, such as Notepad. Scroll to the bottom of the page and locate the [Strings] tag. It will look like the list below:

```
[Strings]
Ftdi="Linx"
USB\VID_0403&PID_6001.DeviceDesc="Linx Blank QS Device"
USB\VID_0403&PID_F448.DeviceDesc="LINX SDM-USB-QS-S"
USB\VID_0403&PID_F449.DeviceDesc="Master Development 2.0"
FTD2XX.SvcDesc="Linx USB Drivers"
WINUN="Software\Microsoft\Windows\CurrentVersion\Uninstall"
DriversDisk="Linx USB Drivers Disk"
```

The fourth line shown above can be changed from LINX SDM-USB-QS-S to the product's name, which will then be shown in the Device Manager. The lines below change the product's name to New Widget:

```
[Strings]
Ftdi="Linx"
USB\VID_0403&PID_6001.DeviceDesc="Linx Blank QS Device"
USB\VID_0403&PID_F448.DeviceDesc="New Widget"
USB\VID_0403&PID_F449.DeviceDesc="Master Development 2.0"
FTD2XX.SvcDesc="Linx USB Drivers"
WINUN="Software\Microsoft\Windows\CurrentVersion\Uninstall"
DriversDisk="Linx USB Drivers Disk"
```

USING THE PROGRAMMER

Using the programmer is straightforward. Begin by clicking the New button to create a new project. Enter a name into the Project Name box and fill in the Manufacturer and Product Description fields. These two fields must be at least two characters long, but combined may not exceed 38 characters.

The Vendor ID and Product ID are four character hexadecimal numbers and should not be changed unless a unique certification has been obtained for the final product.

The Manufacturer ID is a two character field that can be any two alphanumeric characters. These characters are used as the first two characters of the serial number.

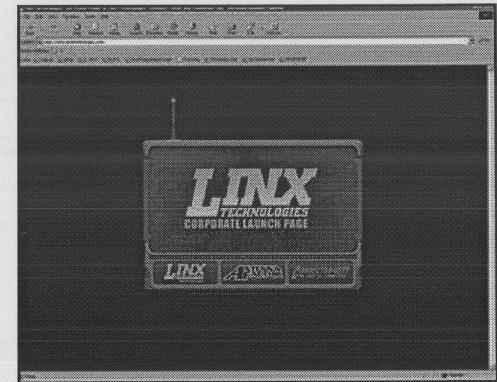
Fill in the Power and Features as desired based on the descriptions in the previous section, then press the Write EEPROM button. The values on the form will be compiled and written into the EEPROM in the module. These values can be read out by pressing the Read EEPROM button.

ON-LINE RESOURCES



www.linxtechnologies.com

- Latest News
- Data Guides
- Application Notes
- Knowledge Base
- Software Updates

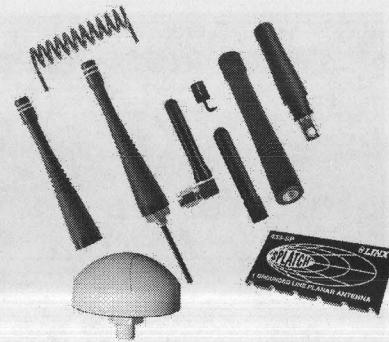


If you have questions regarding any Linx product and have Internet access, make www.linxtechnologies.com your first stop. Our website is organized in an intuitive format to give you the answers you need in record time. Day or night, the Linx website gives you instant access to the latest information regarding the products and services of Linx. It's all here: manual and software updates, application notes, a comprehensive knowledge base, FCC information and much more. Be sure to visit often!



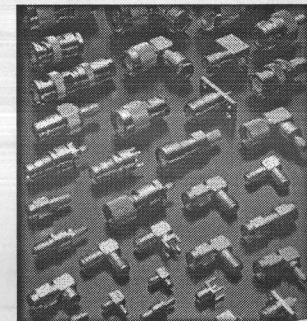
www.antennafactor.com

The Antenna Factor division of Linx offers a diverse array of antenna styles, many of which are optimized for use with our RF modules. From innovative embeddable antennas to low-cost whips, domes to yagi's, and even GPS, Antenna Factor likely offers or can design an antenna to meet your requirements.



www.connectorcity.com

Through its Connector City division, Linx offers a wide selection of high-quality RF connectors, including FCC-compliant types such as RP-SMAs that are an ideal match for our modules and antennas. Connector City focuses on high-volume OEM requirements, which allows standard and custom RF connectors to be offered at a remarkably low cost.





U.S. CORPORATE HEADQUARTERS

Linx Technologies, Inc.

575 S.E. ASHLEY PLACE
GRANTS PASS, OR 97526

Phone: (541) 471-6256
FAX: (541) 471-6251
<http://www.linxtechnologies.com>

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